All cmd commands for networking pdf

The Windows operating system contains many built-in network utility command lines. These tools range from obscure to banal. However, there are 11 built-in networking tools that Windows network administrators should be familiar with. Ping I'm guessing that the ping team is probably the most familiar, and the most widely used utility discussed in this article, but that doesn't make it any less important. Ping is used to test the ability of one network host to communicate with another. Simply enter the Ping command and then the name or IP address of the destination host. Assuming that there are no network problems or firewalls preventing pings from filling out, the remote host will respond to ping with four packages. Receiving these packages confirms that there is a valid and functional network path between the two hosts. NetStat If you're having problems with network communications, network statistics can sometimes help you identify the root cause of the problem. That's where the aptly named NetStat team comes into play. This team has a number of different functions, but the most useful of these is to display the network's consolidated information for the device. To see this type of summary information, simply in the way of NetStat -e. The ARP team corresponds to the Address Resolution Protocol. While it's easy to think about network communications in terms of IP address, package delivery ultimately depends on the address of the device's media access management (MAC). This is where the Address Resolution Protocol comes into force. His job is to match IP addresses with MAC addresses. Windows devices support the ARP cache, which contains the results of recent ARP requests. The contents of this cache can be seen with the ARP-A command. If you're having trouble communicating with one particular host, you can give the remote host's IP address to the ARP-A team. NbtStat As I'm sure you probably know the computers that run the Windows operating system are assigned the name of the computer. Often there is a domain name or team name that is also assigned to the computer. The name of the computer is sometimes called the name NetBIOS. Windows uses several different methods to map NetBIOS names to IP addresses such as broadcast, LMHost search, or even using the almost extinct WINS server request method. Of course, NetBIOS over TCP/IP can sometimes break down. The NbtStat team can help you diagnose and fix such problems. For example, the NbtStat-n team shows the netBIOS names used by the device. The NbtStat-r team shows how many NetBIOS device names have been solved recently. Host's name Previously discussed by the NbtStat team can provide you with a host name assigned to a Windows device if you know switch to use with the team. However, if you're just looking for a quick and easy way to verify your computer's name, try hostname. Putting the host name in the command hint returns your local computer name. Tracert Contrary to what a rather infamous YouTube video can lead you to believe, Tracert is not pronounced Tracer T, and can't show you how many people are using Google right in that second. Instead, Tracert, or Trace Route, is a utility to explore the path to a remote host. Functionally, Tracert works the same way as Ping. The main difference is that Tracert sends a number of icMP echo requests, and the TTL query increases by 1 each time. This allows the utility to display the routers through which the packages pass to be identified. Where possible, Windows displays the duration and IP address or the fully qualified domain name of each jump. One utility that I find myself using constantly is IPConfig. In its simplest form, the IPConfig team will display basic information about the IP address configuration for the device. Simply put IPConfig into a Windows command query and you'll be presented with an IP address, a subnet, and a default gateway that currently uses the device. If you want to see more information, then enter IPConfig/all. This results in Windows displaying an IP address configuration that is much more verbose. It's also a command you'll have to use if you want to see which DNS server your Windows device is configured to use. The IPConfig team can do much more than just display information about the IP address configuration. It also contains options that can help you with troubleshooting related to DNS and DHCP. For example, entering the IPConfig/FlushDNS command clears the contents of the DNS computer solution cache. NSLookup NSLookup is a great utility for diagnosing DNS name resolution issues. Simply bring in the NSLookup command, and Windows will display the default DNS name and IP address of the device's DNS server. From there, you can enter host names to see if the DNS server can decide the host's name. Route IP networks use routing tables to redirect packages from one subnet to another. The Windows Route utility lets you view your device's routing tables. Just keep Route Print on. The cool thing about the Route team is that it not only shows you the routing table, it allows you to make changes. Teams such as Route Add, Route Delete, and Route Change allow you to make changes to the routing table if necessary. The changes made can be permanent or non-pered, depending on whether you use the switch -P. PathPing Previously, I've talked about Ping Utility and Tracert and the similarities between them. As you might have guessed, the PathPing tool is a utility that combines the best aspects of the aspects and Ping. Entering the PathPing command followed by the host name initiates what looks like a somewhat standard Tracert process. However, after completing this process, the tool takes 300 seconds (five minutes) to collect statistics, and then reports statistics of delays and loss of packages that are more detailed than those provided by Ping or Tracert. NetDiag is arguably the most useful of the network utilities that are built into Windows netDiag. The NetDiag team is designed to run battery tests on your computer to help a specialist figure out why your computer is having network problems. One of the things that I really like about this tool is that although there are a number of extra switches that you can use, you don't have to use any of them if you don't want to. Entering the NetDiag team by itself will result in the launch of all available tests. In some cases, NetDiag can not only identify problems, but also fix these problems. Obviously, NetDiag can't automatically fix every problem it finds, but the option/Fix app to the team will tell NetDiag to try to fix the problem automatically. The Windows operating system is jam-packed with command-line utilities. Many of these utilities are left behind by operating systems that were introduced decades ago. Even so, the utilities that I discussed in this article are as useful today as they were when they were first introduced. Photo credit: Shutterstock Post Views: 245,888 Report this Windows ad comes with some incredibly useful networking teams that are powerful but very easy to use and access from command hints, also called cmd. Here are the 15 most useful networking commands available in Windows that you need to know about to make gathering information, identifying problems, and fixing problems much easier and faster. How to access a command hint in Windows 1. Tap the start-up button and select Run to open the Run 2 window. Enter the box and click on OK 3. Command Prompt window will open 1. PING Used for: Troubleshooting Network Connection Command Problems enter: ping ping team is one you're likely to be familiar with as it's one of the most widely used utilities, but it's still important nonetheless. Ping is used to test how one network host can communicate with another. Assuming that there is nothing to stop ping reaching its destination like a firewall or network problem, the device will respond to ping with four data packets. If you get these packages back, ping confirms that there is a working network path between you and the destination host. I have a special article on how to use the ping team that is part of this important team in more detail. 2. Used for: Fast find your IP command address to enter: ipconfig IPConfig is team I find myself using a lot as it can provide you with a lot of useful information from just one team. Simply, the IPConfig team displays basic information about the IP address configuration for the Windows device you're working on. IPConfig has several switches associated with it to provide additional information as well as perform certain actions: IPConfig /all - Displays additional information for all NETWORK adapters IPConfig /release - Releases ip address that you currently use IPConfig / renewing IP address on your device IPConfig / flushdns - Flushing cache DNS IPConfig / - Displays help for IPConfig and its Switches 3. GETMAC Used for: Fast find the MAC team address to enter: getmac In order to meet IEEE 802 standards, each device must have a unique MAC (Media Access Control) address. The manufacturer of your device will assign him a mac address and store it in the equipment. The getmac team provides an easy way to find your device's mac address. If you see multiple MAC addresses for your device, it will have several network adapters. For example, a laptop with Ethernet and Wi-Fi will have two separate MAC addresses. Some administrators will use unique DEVICE MAC addresses to limit what can and cannot connect to the network. 4. ARP Used for: Eliminating Network Connection Problems Command To Enter: ARP ARP means Address Resolution Protocol and command is used to map IP address to MAC address. It's easy to assume that online communication only occurs using IP addresses, but that's not the case. Package delivery ultimately depends on the MAC address of the device's network adapter, not on the IP address. With the arp command, you can display and change the address resolution protocol cache. useful for solving problems. 5. HOSTNAME Used for: A quick search for a host team to enter: the host-name host team provides you with an easy way to identify the name of the host who has been assigned to the Windows device. There are ways to be able to find this through Windows, but using a command line is much faster. Simply put the host's name into a team query and it will provide you with the local name of your device's computer. 6. NSLOOKUP Used for: Eliminating Team's LogIn Network Connection Trouble: nslookup NSLookup is useful for diagnosing DNS name resolution issues. By typing nslookup into the team query, you'll be presented with the name and IP address of your device's DNS server. For you at home, it will most likely be your router, but in enterprise environments, it will probably be a dedicated DNS server. NSLookup can be used to find the device IP address, find the IP address domain name and find mail servers for the domain. 7. Used for: NetBIOS Troubleshooting Command Issues to Enter: nbstat As you now know from using the host's name command, each Windows device will be given the computer's name. Often, there will be either a domain or a working group that is also assigned and that the device is a member. For you at home, your device will probably be within your own working group. The technical term for the name of the computer is the name NetBIOS, where the nbtstat team comes into play. Windows uses a variety of methods to connect NetBIOS names to IP addresses; these include broadcasting and LMHost to look for. There are times in which this mapping breaks down, so the nbtstat team is used to help you diagnose and solve these problems. Nbtstat-n will show the netBIOS names that the device uses, while the nbtstat-r team shows how many NetBIOS device names have recently been solved. 8. NET Used for: Displaying available clean command switches to enter: a clean net command is definitely versatile, allowing you to manage many different aspects of the network and its settings such as network promotions, users and print jobs as just a few examples. Running just clean won't do much, but it will provide you with a list of all the switches that are available. These include accounts to set up password and logo requirements, a file to show a list of open files and sessions to list or even disable sessions on the network. If you've ever doubted what kind of task each switch performs, run clean help, and I'm sure you'll find the answer. 9. NETSTAT Used for: Displaying team network statistics to log in: netstat Network Statistics View is a great way to eliminate any problems you experience on your network and may well point you in the direction of the root cause. The netstat team does just that; provide you with a useful network summary for your device. Start netstat and you'll see a list of active connections, with more added every few seconds. It will describe the protocol used, the local address, the foreign address and the status of the connections. To see some interface statistics including bytes sent and received, errors sent and received, and unknown protocols use a netstat-e switch. 10. NETSH Used for: Displaying and customizing Team Network Adapters to enter: netsh Netsh is another very powerful team that allows you to view and customize almost all network adapters in your device in much more detail than some other commands. If you run the netsh command yourself, the command request will be moved to the network shell mode. In this mode, there are several different contexts, such as one commands related to DHCP, one for diagnosis and one for routing. You can still run individual commands from netsh, however. In order to see all the available contexts netsh, run netsh /? See commands available in context, run netsh contextname /? Sub-teams are available in certain teams. To view them, run the netsh contextname show /? As an example, you can run a team of netsh wlan drivers to see all wireless drivers on your device and their properties. 11. TASKKILL Used for: End Of Processes Command to Enter: taskkill I'm sure you're familiar with the ability to complete the process with the help of a target manager, but did you know that it's also possible from the command line? Well, you certainly can, and you have the option to kill a task or process using either an ID process or a file name. If you're unsure of what processes are working and therefore don't know what should be killed, first use the tasklist to see the process name (listed as the image name) in addition to how much memory the process uses. Once you know the name of the process, you can use taskkill/IM processname.exe to put an end to it. In some cases, using only a taskkill team is not enough and we have to force stop the process. An example is if we try to kill Internet Explorer when we have multiple tabs open. In this case, you can use taskkill/f/IM iexplore.exe to forcibly kill the process. There are many different switches available for the taskkill team. To view them all, run taskkill/?. 12. TRACERT Used for: Fixing Network Connection Connection Connection Command Problems to Enter: Tracing With the tracert command you can trace the route the package takes before reaching its destination, and see information about each hop along the route. The transition refers to the number of routers the package travels through along the route. Sometimes the transition is counted when a package passes through other parts of network equipment, such as repeaters, switches, and access points, but that's not always the case, as it depends on how these devices are configured and what role they play in the network. After you start the tracert command, you'll be presented with a line-by-line summary of each jump, which includes a delay between your device and that particular hop transition and IP address. Let's say you run a ping command to check the website's accessibility. In this example, you don't get a response, so you can't contact the site. You can then use the tracing command to show you exactly where the problem is. This may be a malfunction at your end, or the website itself may not be available. 13. PATHPING Used for: Fixing Network Connection Problems Of The Command to Enter Problem: The way we've already described pinging and tracing commands and the similarities between them. As you've probably guessed by the name of the team, the lash combines what is best as and tracert in one utility. Enter the path and then the host's name into the command hint and it will initiate what looks like a normal ordinary The team's trackrt. Let the process end, however, and you will be given more information than ping or tracert can provide, such as delay reports and package loss statistics. Be patient when using the command path as it will take five minutes to collect all the statistics for you. 14. SYSTEMINFO Used for: Displaying the Team Information System to enter: systeminfo If you need to know anything about the device you are using, whether it's the details of the processor you're using, the Windows version you're running, or what the download device is configured as, you can find it all through the Windows graphical interface. But why would you want to spend time on it when you can run this simple team to see it all in one place? This team will survey your device and display the most important information in a clean, easy-to-read format. 15. NET VIEW Is used to view devices connected to the Command network to log in: Net view There may be a time when you want to see which devices are connected to your network. This is where the pure submission command comes in. Just run the net view command and after a while you will be presented with a list of devices that are connected to the same network as you. The warning with this command is that it can't show all the devices connected to your network. It works well enough for private networks, but won't be able to identify devices such as smartphones and printers, and it may have trouble identifying devices that run with another Windows operating system. This simple team can work great for you and your home network, but if not, you can always use the arp command that we discussed earlier. The conclusion there you have. The 15 most useful networking commands that you can run quickly and easily with the Windows team hint. These teams should hopefully make gathering information, diagnosing problems and fixing problems much easier for you. Let me know in the comments below what you find to use the most and which is most useful. Helpful. all cmd commands for networking pdf